

EXPLANATION OF PLATE II.

- Fig. 1. Egg of *Pharomacrus paradiseus* (p. 66).  
 Fig. 2. Egg of *Mimus gracilis* (p. 60).  
 Fig. 3. Egg of *Polioptila albiloris* (p. 61).  
 Fig. 4. Egg of *Pachyrhamphus aglaia* (p. 64).  
 Fig. 5. Egg of *Icterus mentalis* (p. 62).

VI.—On new or little-known Birds of North-Eastern Africa.

By Hofrath THEODOR VON HEUGLIN. (Part II.)

[Continued from vol. ii. p. 414.]

(Plate ~~XX.~~ <sup>III</sup>)

III. TINNUNCULUS ALOPEX, Heuglin. (Plate ~~XX.~~ <sup>III</sup>) (*Falco alopex*, Heugl. Uebers. der Vögel N.O. Afr. no. 51.)

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*T. ferrugineus*, subalaribus paulo pallidioribus, totus nigro striatus : caudæ fasciis xviii–xx æqualibus, transversis, nigricantibus : remigibus fusco-nigris rufescente variegatis et basin versus interne albis : long. tota (fœm. adultæ) 1·1, alæ 10·6, caudæ 7·0, tarsi 1·9 poll. et lin. Gall.

*Hab.* In prov. Galabat et locis vicinis.

The general colour of this bird is fox-red, with well-defined blackish spots along the shafts of the feathers. The tail is somewhat darker superiorly, with from eighteen to twenty narrow inconspicuous cross-bands on the shafts of the rectrices. The last of these cross-bands is not conspicuously broader and better defined than the next to it, and there is no lighter edge at the extremity of the tail. The lower coverts of the wings are scarcely lighter than the body, and each feather has a dark spot on the shaft ; the inner barbs of the primaries and secondaries are whitish at the roots. The soft parts are greenish yellow ; the bill and claws are bluish, the base of the lower bill yellowish, the iris brown.

I discovered this bird, which is easily distinguished from all the other species of *Tinnunculus*, during my sporting excursions into the countries on the Upper Nile. With regard to its proportions, it is intermediate between *F. tinnunculus* and *F. rupicoloides*, but is more slender and has the wings longer than either of them.

The bill is longer and not so strong : the toes and tarsi are somewhat longer ; the latter are shielded upwards to half their height. The species is to be recognized at a distance by its red colour, by the ferruginous lower coverts of the wings, and by the absence of grey on the head and of any broad band on the tail. As far as I know, it is confined to very narrow limits, as I have only found it on the western frontier of the provinces of Wóchni, Galabat, and Goara, and in the prairies of Eastern Sennaar, near Atbara, where it inhabits steep, isolated, volcanic, rocky mountains, sometimes in company with *F. tinnunculus*. It appears to nest in clefts of the rocks in preference to high trees, and hunts for its prey, which consists chiefly of grasshoppers, *Mantides*, and *Truchsalides*, in the morning and evening. Like *F. erythropus* and *F. æsalon*, it devours its prey (holding it in its claws) as it flies, after having previously picked off the legs. I have never found birds or mammals in its stomach, but sometimes large beetles (*Copris* and *Ateuchus*). Whenever the prairie takes fire at the time of the drought, this Kestrel hurries to the spot, often from a distance of several miles, and there joins the great flocks of other insectivorous birds which assemble to hunt after orthopterous and lepidopterous insects, snakes, and other animals that are attempting to escape from the flames. It is difficult to describe the impression made by so strange a spectacle. A sea of flame, fluctuating and roaring like thunder, spreads rapidly as lightning through the dry and high grass, and is overshadowed by a black smoke, which eclipses the daylight and reflects the shooting flashes of fire. Amid this uproar of the elements, the Bee-eater (*Merops nubicus*, Gm.), the Parasitic Kite (*Milvus parasiticus*), the different species of *Circus* and *Tinnunculus* are frantically chasing and pursuing their prey, sometimes plunging into the midst of the smoke, and for the moment disappearing in it. It often happens that one of them sings its wings or tail. This infernal scene is followed

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258 by a flock of Storks (*Sphenorhynchus abdimii*), which, melancholy and grave, stride over the burnt and still glowing prairie, seizing the half-roasted grasshoppers with the never-missing thrust of their bills, or robbing of their prey the unfortunate Plovers (*Chettusiæ*) which happen to come into too close proximity.

I have never found *Tinnunculus alopez* in the interior of Abyssinia, in the prairies of Kordofan, or on the Blue and White Niles, but it probably occurs in the southern parts of the Peninsula of Sennaar (near Djebel Róra and Djebel Gul) and in Taka. It is not more shy than the species most closely allied to it, and its voice is also the same. I add a more detailed description.

The ground-colour is fox-red, with the exception of the throat, which is dirty yellowish olive: there is a blackish spot before the eye, produced downwards into a sort of beard, and deep-coloured stripes on the shafts of the feathers of the upper part of the body, of the breast, belly, and of the sides; these stripes are brownish on the lower coverts of the tail and on the longest of the upper coverts. Wing-feathers brownish-black, with transverse, sometimes continuous, ferruginous spots on the inner barbs, which become gradually lighter and nearly white at the bases. The secondaries and tertiaries have a dirty yellowish-olive margin at the extremities, and the transverse spots extend also to the outer web, being interrupted by the shaft. The scapularies have the spots on the shafts broader and rounded at one end, and some of them have indistinct, dark, transverse marks, probably the remnants of an earlier stage of plumage. The tail is dark ferruginous superiorly, with the shafts somewhat darker; it is lighter inferiorly, with from eighteen to twenty narrow cross-bands, interrupted by the shafts, and gradually becoming broader and more deeply coloured at the extremity. The broad terminal band, however, which is found in most of the other species, and the light coloration of the extremity, are entirely absent.

The lower coverts of the wings show the same coloration as the upper parts of the body, whilst they are light olive and black-spotted in *F. tinnunculus*, *rupicola*, &c., and uniform yellowish white in *F. rupicoloides*.

The male is distinguished by a rather more intense coloration, the female by its somewhat larger size. The wings extend nearly to the end of the tail.

I know nothing of the earlier plumage, the propagation, &c. of this Kestrel. I have found it from the month of December to May, always in the same localities.



Typical specimens have been sent to the collections of Berlin, Frankfort, Stuttgart, Vienna, and to that of Pastor Brehm. The other species of *Tinnunculus* observed by me in North-Eastern Africa are the following :—

1. *TINNUNCULUS CENCHRIS* (Naum.).

Very common during the spring in Lower Egypt, especially round Alexandria, breeding in the walls of the citadel. I shot it in the month of May near Cairo, and met with single specimens on the Nile, through the whole of Egypt and Nubia. We shot one specimen in the month of April (1853) in Galabat, on the western frontier of Abyssinia. Rüppell appears to have found it also in Eastern and Central Abyssinia.

2. *TINNUNCULUS ALAUDARIUS*, Briss. (*T. rufescens*, Sw. ?)

This is a stationary bird in Egypt, Arabia, and Nubia, and single specimens occur in Abyssinia, Kordofan, Sennaar, &c. It breeds as early as the month of March, in numerous pairs, near the Pyramids, in the tombs of Sagára, &c.

3. *TINNUNCULUS RUPICOLA*, Daud.

I have not found it; but Rüppell says that it is frequent in the whole of North-Eastern Africa (Syst. Uebers. p. 11. no. 33).

4. *TINNUNCULUS VESPERTINUS* (Linn.).

Often seen in numerous flocks, in every sort of plumage, in autumn and spring in Lower Egypt, near ditches, fences, and bushes. Single specimens occur in Upper Egypt, Nubia, and Sennaar. It does not regularly make its appearance, and sometimes several years pass without a single specimen being met with.

IV. *MELIERAX METABATES*, sp. nov.

*M. Melieraci polyzono* affinis sed paulo minor, et differt pedibus et rostro robustioribus, illis flavis; colore tergæi obscuriore; plumis axillaribus dorso concoloribus, pogoniis externis rectricis primæ sexties aut septies fasciatis: rectricum lateraliū apicibus albis multo angustioribus; regionibus mystacali, ophthalmica et parotica vertice concoloribus: long. tota (maris adulti) vix 15·0, rostri a fronte 1·25, ab angulo oris 1·3, alt. rostri 8·5, alæ 12·0, caudæ 7·5, digiti medii cum ungue 2·4, hall. cum ungue 1·7, tarsi 3·2 poll. et lin. Gall.: ceromate et iridibus pallide flavis.

*Hab.* In reg. Nili albi sup.

One of the natives killed a specimen of *Melierax* in the year 1853–1854, on the upper Bahr el Abiad, between 6° and 7° N. lat. His attention had been directed to the bird by its habits being very different from those of *M. polyzonus*. Although its general form was extremely similar to that of the species named, and to that of *M. musicus*, a more accurate comparison appeared to be necessary, and considerable differences were soon discovered. Not venturing, however, to found a new species on my sole authority, I have sent the unique specimen to Dr. Hartlaub of Bremen, who declares it certainly to be a good and new species, and I therefore hasten to make it known.

Comparing this bird with *M. polyzonus* and *M. musicus*, we observe that the head and ocular region are of the same colour, whilst the latter is black in the two other species; the transverse streaks on the belly and on the upper and lower coverts of the tail are broader and more intense; the upper and inner (not lower) surfaces of the fore-arm are not variegated with white; there are more numerous and more intensely coloured transverse bands on the tail; the pure white extremities of the rectrices are less broad; there are four or five white, somewhat greyish-dotted cross-bands on the third rectrix, besides the white spot on the extremity. The hind-toe with nail is more than 2 lines longer than in *M. polyzonus*, male. The lateral upper coverts of the tail are not white as in *F. musicus*, but transversely striated as in *M. polyzonus*. The tarsus is 2 inches long, from the end of the feathers to the base of the toes.

I am not able to give any details concerning the habits and distribution of this species. Perhaps it is not rare on the Bahr el Abiad, but generally confounded with *M. polyzonus*.

*Melierax polyzonus* (a species very distinct from *M. musicus*) lives in North-Eastern Africa, from 17° or 16° N. lat. southwards, in the southern parts of Nubia, in Kordofan, Taka, Sennaar, Abyssinia, and in the Somàli country. It is by no means a rare bird (except in the higher mountainous parts), not shy, and easily tamed. I found an apparently new nest in February 1857, in the Bajàda Desert, on a high, thickly-leaved *Mimosa*. It was necessary to make a great noise in order to induce the bird to leave the nest, and we had then no time to

examine it. The natives assured me that the bird frequently breeds on palms round Chartum.

The other species of *Asturinae* found in North-Eastern Africa are:—

1. *ASTUR PALUMBARIUS*, L.

"Single, in Egypt," Rüpp. Probably in winter only.

2. *ASTUR MELANOLEUCUS*, Smith. Fazogloa, Paul von Würtemberg.

3. *MICRONISUS MONOGRAMMICUS* (Temm.).

Rare, in dense bushes in Western Abyssinia (Galabat), in Fazogloa, and along the Bahr el Abiad. This species is very shy, appears to migrate, and to breed in the month of May. The iris is very large and brown.

4. *MICRONISUS GABAR* (Daud.). Var. *nilotica*, Sundev.

The most northern point of its occurrence on the Nile is, according to my observations, in Middle Nubia, in the provinces of Dar-Mahas and Dar-Sukot. It is very frequent in Southern Nubia, somewhat rarer in Kordofan, Abyssinia, Sennaar, on the Bahr el Abiad and Bahr el Azrak. Lichtenstein, as long ago as in his 'Doubletten-Verzeichniss,' pointed out the differences between the eastern and western varieties:—"Specimina e Nubia et Africa australi *Nisum* magnitudine superant: mas 14", fœm. 15½" longa. Senegalensia autem multo minora: mas 10", fœm. 11" longa; sed vix specie diversa." Conf. Sundev. Oefvers. 1850, p. 132.

5. *MICRONISUS NIGER* (Vieill.).

Always met with singly in Western Abyssinia, Sennaar, and Kordofan. The most northern point at which I have found this species is Dabbeh, on the frontier between Dar-Dongola and Dar-Schaikieh. I doubt not that it is a good species, different from the preceding. Iris and feet pale yellow.

6. *ACCIPITER SPHENURUS* (Rüpp.).

Rare in Kolla (Western Abyssinia) and on the Blue Nile; probably in Southern Kordofan. The bird described\* by Strickland as a variety of this species probably belongs to *A. minullus*. A

\* Proc. Zool. Soc. 1850, p. 215.



young bird, similar to Strickland's specimen (which came from Kordofan), shot by myself near Chartum in a Mimosa-forest, has been accurately compared with an old Abyssinian specimen of *A. minullus*, without any specific difference having been discovered.

7. ACCIPITER MINULLUS (Daud.).

Rare, in thick bushes on the Blue Nile, in Western Abyssinia, on the Mareb. East-African specimens appear to form a very constant variety.

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8. ACCIPITER PERSPICILLARIS (Rüpp.) (probably identical with *A. exilis*, Temm.).

Rare in Abyssina and on the Blue Nile.

9. ACCIPITER UNDULIVENTRIS (Rüpp.).

Single specimens occur in the valleys of Simén, in Abyssinia (Rüpp.).

10. ACCIPITER NISUS (Linn.).

Frequent in Egypt during the winter, occasionally in Arabia, and along the Nile southwards to Kordofan and Sennaar.

V. BUTEO MINOR, sp. nov. (?).

*B. Buteoni tachardo* simillimus, sed differt rostro longiore et graciliore, pedibus longioribus: tibiarum partibus  $\frac{3}{4}$  aut  $\frac{4}{5}$  (in *B. tachardo* adulto  $\frac{2}{3}$ ) nudis: remigum tertia (in *B. tachardo* quarta) longissima: dorso et tectricibus alarum chalybeo-nitentibus: long. tota (fœmin. adult.)  $15\frac{1}{2}$ , rostri ab angulo oris 1.4, rostri a fronte 1.0, tarsi 2.8, caudæ 7.0, alæ 12.

*Hab.* In Africa Bor. Orient. regione pluviosa.

A species of *Buteo*, closely allied to *B. tachardus*, is found singly in the regions situated within the rainy zone of North-Eastern Africa. I have called it *Buteo minor*. The bill is longer and more slender than in *B. tachardus*; the tarsi are several lines longer, one-fourth or one-fifth of their length being covered with feathers; the third primary is the longest. The colours are subject to variations, as in *B. tachardus* and *B. vulgaris*; but the whole back and the covers of the wings in *B. minor* are distinguished by a very strong metallic violet-like splendour. It does not appear as if there were any other constant difference in the coloration of the three species named.

I cannot decide the question whether *B. tachardus* from Smyrna and from Southern Russia ought to be referred to the present species, nor do I know whether *B. minor* is a stationary bird in the Sudan.

The following are the other known species of the genus in North-Eastern Africa :—

1, 2. *BUTEO ANCEPS* and *B. EXIMIUS*, Brehm ('Naumannia,' 1854), are known to me only from the names. They are found on the Blue Nile.

3. *BUTEO RUFIPENNIS*, Sundev. and Strickl.\* has been erroneously taken by myself for a species of *Circus*, and described and figured as *Falco mülleri*, nob. ('Naumannia,' iii. 1849). Sundevall has correctly classed it as a *Poliornis*, Kaup. It is frequently found in the months from June to November round Chartum, on the Bahr el Abiad, and in Kordofan; its habits approach to those of *Circus pallidus*, but it is also frequently found sitting on trees.

4. *BUTEO RUFINUS*, Rüpp., is, without doubt, identical with *Buteo ferox*, Gm., and *Butaëtus leucurus*, Naumann. I have found this beautiful bird from October to March, generally in pairs, along the Nile, in Upper Egypt and Nubia, and still more frequently in Eastern Sennaar, and in the forests of the North-Western Kolla. The iris is dark brown; bill bluish; base of the mandible lead-grey; angle of the mouth, cere and feet yellowish. Immature specimens have the ground-colour of the tail light brownish-grey, with ferruginous shades. The wings extend to a distance of 8 inches from the end of the tail. The total length of the male is about 20 inches; that of the female 22 or 23 inches.

5. *BUTEO AUGUR*, Rüpp.

This is a beautiful bird, representing *B. jacal* of Southern Africa. It is frequently found southwards from Mareb, in Eastern and Central Abyssinia.

6. *BUTEO VULGARIS*, Bechst.

Occasionally seen during the winter in Egypt. According to Rüppell, "Everywhere in N. E. Africa."

[To be continued.]

\* Proc. Zool. Soc. 1850, p. 214, pl. xxii.





J. Jennens, lith.

M & N. Hanhart, Imp<sup>r</sup>

TINNUNCULUS ALOPEX.